Lesson 1 - Tuning Forks
Students investigate tuning forks and the sounds produced by the tuning forks.

Lesson 2 - How Sound Travels
Students explore how the sounds produced by tuning forks travel through different materials: wood, metal, string.

Lesson 3 - Sounds with Nails
Students explore the sounds made by vibrating nails of different sizes.

Lesson 4 - Sounds with Rulers
Students investigate the length of a vibrating object as a specific variable that affects pitch.

Lesson 5 - Exploring Pitch
Students continue their investigation of the length of objects and the changes in the pitch of the sound produced.

Lesson 6 - Vibrations We Cannot See
Students experiment with sound produced by a vibrating column of air in a slide whistle.

Lesson 7 - Designing a Reed Instrument
Students design and demonstrate a wind instrument that uses a vibrating reed.

Lesson 8 - Making Sounds with String
Students engage in an in-depth exploration of the variables that affect the pitch of sound produced by a vibrating string.

Lesson 9 - Changing Pitch by Changing Tension
Students experiment with the production of a sound from tightened strings.

Lesson 10 - Tuning a Stringed Instrument
Students build a pegboard harp with several strings and experiment with ways to change the pitch of the sounds produced.

Lesson 11 - Sounds of Different Strings
Students explore and describe sounds produced by vibrating strings of different thickness; compare and contrast ways to change pitch.

Lesson 12 - Louder Sounds from Strings
Students focus on factors affecting volume of sound produced.

Lesson 13 - The Human Vocal Cords
Students investigate the sound producing "instrument" in our bodies— the vocal cords— and make connections and applications to earlier observations.

Lesson 14 - Making a Model Eardrum
Students make a model eardrum and observe how sounds make it vibrate; they connect earlier investigations on how sound travels.

Lessons 15-16 - Performance Assessment
Students apply conceptual understanding of sound by designing and constructing a musical instrument.

Sub-concept: Pitch and volume are two properties of sound. Pitch is determined by the frequency of the vibration; volume is determined by the amplitude of the vibration.

Sub-concept: Changing the properties or characteristics of vibrating objects and materials can affect the pitch of sounds produced.

Sub-concept: Changing the properties or characteristics of vibrating objects and materials can affect the volume of sounds produced.

Sub-concept: Changing the properties or characteristics of vibrating objects and materials can affect the intensity of sounds produced.

Sub-concept: Pitch and volume are two properties of sound. Pitch is determined by the frequency of the vibration; volume is determined by the amplitude of the vibration.

Sub-concept: Sound travels through different states of matter at different rates.